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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,689	02/01/2001	Richard N. Zare	S00-184	3470

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EXAMINER

NGUYEN, TU T

ART UNIT PAPER NUMBER

2877

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/775,689

Applicant(s)

ZARE ET AL.

Examiner

Tu T. Nguyen

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-26 and 28-39 is/are rejected.
- 7) ☒ Claim(s) 8 and 27 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 06/18/02.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Detailed Office Action

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7,9-26,28-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Logunov (6,392,753).

With respect to claims 1,20, Logunov discloses a ring-down cavity. The system comprises: a cavity 8 (fig 5a), a light source 6 (fig 5a), a resolving means 37 (fig 5a), a detector 10 (fig 5a).

Logunov does not explicitly disclose the resolving means 37 (fig 5a) being a time resolving means. Since Logunov taught that the ring-down time is depended on the absorption coefficient of the absorbing medium 37 (column 5, lines 27-35), it would have been obvious that Logunov's resolving means 37 (fig 5a) performs the same function as the claimed time resolving means.

With respect to claims 2-5,21-22,24-25, it would have been obvious a design choice to modify Logunov's system with an ultra fast light source having an ultra short pulse or modify

the time resolving means with different medium for measuring different samples.

With respect to claims 6,23, it would have been obvious to modify Logunov with a short response pulse and an ultra fast detector to save the measuring time.

With respect to claims 7,26, Logunov discloses a train of response pulses (fig 2).

With respect to claims 9,13-14,18-19,29,33-34,38-39, Logunov discloses a cavity with a predetermined cavity length L (column 4, lines 60-67). It would have been obvious to modify Logunov's cavity with a non-linear or a linear cavity or a low reflector for different measuring purposes.

With respect to claims 10-12,15-17,30-32,35-37, it would have been a design choice to change Logunov's cavity length L for measuring different samples.

With respect to claim 28, the claimed extracting means would have been known. It would have been obvious to modify Logunov with the known extracting means to facilitate the measurement.

Allowable Subject Matter

Claims 8,27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and

any intervening claims.

Prior arts of record does not disclose a comparing device as claimed in combination with all the limitations in the base claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T Nguyen whose telephone number is (703) 306-9185. The examiner can normally be reached on M-T 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Tu T. Nguyen
Primary Examiner
Group Art Unit 2877

9/8/03